

What is claimed is:

1. A transmission (1) for a motor vehicle having a capability of automatic shifting, the transmission having three spider planetary sets (2, 3, 4) in which a first planetary set (2) is on an entry side of the transmission (1), a third planetary set (4) is on an exit side of the transmission (1) and a second planetary set (3) is located between the first planetary set (2) and the third planetary set (4), the transmission (1) possessing first, second and third brakes (5, 6, 7) and first and second clutches (8, 9) for the shifting of six forward gears and one reverse gear, and having one input shaft (10) and one output shaft (11) with the following combinations:

the input shaft (10) is connected directly with a sun gear (16) of the second planetary set (3);

the input shaft (10) is connectable by the first clutch (8) with a sun gear (12) of the first planetary set (2) and connectable with a spider (15) of the first planetary set (2) by the second clutch (9);

the sun gear (12) of the first planetary set (2) is connectable with a housing of the transmission (1) by the first brake (5); and

the spider (15) of the first planetary set (2) is connectable with the housing of the transmission by the second brake (6);

wherein a sun gear (20) of the third planetary set (4) is freely rotatable with respect to the sun, the spider and the internal gears of the first and second planetary sets and is connectable solely with the transmission housing when the third brake (7) is engaged; and

the output shaft (11) is fixedly connected with a spider (19) of the second planetary set (3) and is fixedly connected with an internal gear (14) of the first planetary set (2).

2. The motor vehicle transmission with automatic shifting capability according to claim 1, wherein the spider (15) of the first planetary set (2) is continually connected with the internal gear (22) of the third planetary set (4) and the internal gear (18) of the second planetary set (3) is continually connected to the spider (23) of the third planetary set (4).

3. The motor vehicle transmission with automatic shifting capability according to claim 1 wherein the first clutch (8) is activated in a third gear and in a fifth gear, as well as in a reverse gear.

4. The motor vehicle transmission with automatic shifting capability according to claim 1, wherein the second clutch (9) is activated in a fourth gear, in a fifth gear and in a sixth gear.

5. The motor vehicle transmission with automatic shifting capability according to claim 1, wherein the first brake (5) is activated in a second gear and in a sixth gear.

6. The motor vehicle transmission with automatic shifting capability according to claim 1, wherein the second brake (6) is activated in a first gear, in a second gear, in a third gear and in a fourth gear.

7. The motor vehicle transmission with automatic shifting capability according to claim 1, wherein the second brake (6) is activated in a first gear and in a reverse gear.

8. A transmission (1) for a motor vehicle having a capability of automatic shifting, the transmission having three spider planetary sets (2, 3, 4) in which a first planetary set (2) is on an entry side of the transmission (1), a third planetary set (4) is on an exit side of the transmission (1) and a second planetary set (3) is located between the first planetary set (2) and the third planetary set (4), the trans-

mission (1) possessing first, second and third brakes (5, 6, 7) and first and second clutches (8, 9) for the shifting of six forward gears and one reverse gear, and having one input shaft (10) and one output shaft (11) with the following combinations:

the input shaft (10) is connected directly with a sun gear (16) of the second planetary set (3);

the input shaft (10) is connectable by the first clutch (8) with a sun gear (12) of the first planetary set (2) and connectable with a spider (15) of the first planetary set (2) by the second clutch (9);

the sun gear (12) of the first planetary set (2) is connectable with a housing of the transmission (1) by the first brake (5);

the spider (15) of the first planetary set (2) is connectable with the housing of the transmission by the second brake (6);

wherein a sun gear (20) of the third planetary set (4) is connectable with the transmission housing by the third brake (7);

the output shaft (11) is fixedly connected with a spider (19) of the second planetary set (3) and is fixedly connected with an internal gear (14) of the first planetary set (2), and

the spider (15) of the first planetary set (2) is fixedly connected with an internal gear (22) of the third planetary set (4) and an internal gear (18) of the second planetary set (3) is fixedly connected to a spider (23) of the third planetary set (4).

9. The motor vehicle transmission with automatic shifting capability according to claim 8, wherein the first clutch (8) is activated in a third gear and in a fifth gear, as well as in a reverse gear.

10. The motor vehicle transmission with automatic shifting capability according to claim 8, wherein the second clutch (9) is activated in a fourth gear, in a fifth gear and in a sixth gear.

11. The motor vehicle transmission with automatic shifting capability according to claim 8, wherein the first brake (5) is activated in a second gear and in a sixth gear.

12. The motor vehicle transmission with automatic shifting capability according to claim 8, wherein the second brake (6) is activated in a first gear, in a second gear, in a third gear and in a fourth gear.

13. The motor vehicle transmission with automatic shifting capability according to claim 8, wherein the second brake (6) is activated in a first gear and in a reverse gear.

14. A transmission (1) for a motor vehicle having a capability of automatic shifting, the transmission having three spider planetary sets (2, 3, 4) in which a first planetary set (2) is on an entry side of the transmission (1), a third planetary set (4) is on an exit side of the transmission (1) and a second planetary set (3) is located between the first planetary set (2) and the third planetary set (4), the transmission (1) possessing first, second and third brakes (5, 6, 7) and first and second clutches (8, 9) for the shifting of six forward gears and one reverse gear, and having one input shaft (10) and one output shaft (11) with the following combinations:

the input shaft (10) is connected directly with a sun gear (16) of the second planetary set (3);

the input shaft (10) is connectable by the first clutch (8) with a sun gear (12) of the first planetary set (2) and connectable with a spider (15) of the first planetary set (2) by the second clutch (9);

the sun gear (12) of the first planetary set (2) is connectable with a housing of the transmission (1) by the first brake (5);

7

the spider (15) of the first planetary set (2) is connectable with the housing of the transmission by the second brake (6);

wherein a sun gear (20) of the third planetary set (4) is connectable with the transmission housing by the third brake (7);

the output shaft (11) is fixedly connected with a spider (19) of the second planetary set (3) and is fixedly connected with an internal gear (14) of the first planetary set (2), and

the first clutch (8) is activated in a third gear, in a fifth gear and in a reverse gear.

15. The motor vehicle transmission with automatic shifting capability according to claim 14, wherein the second clutch (9) is activated in a fourth gear, in a fifth gear and in a sixth gear.

16. The motor vehicle transmission with automatic shifting capability according to claim 14, wherein the first brake (5) is activated in a second gear and in a sixth gear.

17. The motor vehicle transmission with automatic shifting capability according to claim 14, wherein the second brake (6) is activated in a first gear, in a second gear, in a third gear and in a fourth gear.

18. The motor vehicle transmission with automatic shifting capability according to claim 14, wherein the second brake (6) is activated in a first gear and in a reverse gear.

19. A transmission (1) for a motor vehicle having a capability of automatic shifting, the transmission having three spider planetary sets (2, 3, 4) in which a first planetary set (2) is on an entry side of the transmission (1), a third planetary set (4) is on an exit side of the transmission (1) and a second planetary set (3) is located between the first planetary set (2) and the third planetary set (4), the transmission (1) possessing first, second and third brakes (5, 6, 7) and first and second clutches (8, 9) for the shifting of six forward gears and one reverse gear, and having one input shaft (10) and one output shaft (11) with the following combinations:

the input shaft (10) is connected directly with a sun gear (16) of the second planetary set (3);

the input shaft (10) is connectable by the first clutch (8) with a sun gear (12) of the first planetary set (2) and connectable with a spider (15) of the first planetary set (2) by the second clutch (9);

the sun gear (12) of the first planetary set (2) is connectable with a housing of the transmission (1) by the first brake (5);

the spider (15) of the first planetary set (2) is connectable with the housing of the transmission by the second brake (6);

wherein a sun gear (20) of the third planetary set (4) is connectable with the transmission housing by the third brake (7);

the output shaft (11) is fixedly connected with a spider (19) of the second planetary set (3) and is fixedly connected with an internal gear (14) of the first planetary set (2), and

the second clutch (9) is activated in a fourth gear, in a fifth gear and in a sixth gear.

20. A transmission (1) for a motor vehicle having a capability of automatic shifting, the transmission having three spider planetary sets (2, 3, 4) in which a first planetary set (2) is on an entry side of the transmission (1), a third planetary set (4) is on an exit side of the transmission (1) and

8

a second planetary set (3) is located between the first planetary set (2) and the third planetary set (4), the transmission (1) possessing first, second and third brakes (5, 6, 7) and first and second clutches (8, 9) for the shifting of six forward gears and one reverse gear, and having one input shaft (10) and one output shaft (11) with the following combinations:

the input shaft (10) is connected directly with a sun gear (16) of the second planetary set (3);

the input shaft (10) is connectable by the first clutch (8) with a sun gear (12) of the first planetary set (2) and connectable with a spider (15) of the first planetary set (2) by the second clutch (9);

the sun gear (12) of the first planetary set (2) is connectable with a housing of the transmission (1) by the first brake (5);

the spider (15) of the first planetary set (2) is connectable with the housing of the transmission by the second brake (6);

wherein a sun gear (20) of the third planetary set (4) is connectable with the transmission housing by the third brake (7);

the output shaft (11) is fixedly connected with a spider (19) of the second planetary set (3) and is fixedly connected with an internal gear (14) of the first planetary set (2), and

the first brake (5) is activated in a second gear and in a sixth gear.

21. A transmission (1) for a motor vehicle having a capability of automatic shifting, the transmission having three spider planetary sets (2, 3, 4) in which a first planetary set (2) is on an entry side of the transmission (1), a third planetary set (4) is on an exit side of the transmission (1) and a second planetary set (3) is located between the first planetary set (2) and the third planetary set (4), the transmission (1) possessing first, second and third brakes (5, 6, 7) and first and second clutches (8, 9) for the shifting of six forward gears and one reverse gear, and having one input shaft (10) and one output shaft (11) with the following combinations:

the input shaft (10) is connected directly with a sun gear (16) of the second planetary set (3);

the input shaft (10) is connectable by the first clutch (8) with a sun gear (12) of the first planetary set (2) and connectable with a spider (15) of the first planetary set (2) by the second clutch (9);

the sun gear (12) of the first planetary set (2) is connectable with a housing of the transmission (1) by the first brake (5);

the spider (15) of the first planetary set (2) is connectable with the housing of the transmission by the second brake (6);

wherein a sun gear (20) of the third planetary set (4) is connectable with the transmission housing by the third brake (7);

the output shaft (11) is fixedly connected with a spider (19) of the second planetary set (3) and is fixedly connected with an internal gear (14) of the first planetary set (2), and

the third brake (7) is activated in a first gear, in a second gear, in a third gear and in a fourth gear.

* * * * *